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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,371	02/06/2004	Keiji Ohbayashi	02126D/HG	9785

1933 7590 11/08/2005

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EXAMINER	
PARKER, FREDERICK JOHN	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/773,371	Applicant(s) OHBAYASHI ET AL.	
	Examiner Frederick J. Parker	Art Unit 1762	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 27 October 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: _____.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

Frederick J. Parker
Primary Examiner
Art Unit 1762

Continuation of 11. does NOT place the application in condition for allowance because: it fails to change the Examiner's position. To be fair to Applicants, the Examiner and a second process Examiner considered Applicants' arguments and Figure A. It was agreed that fig. A fails to show what Applicants say it does. The second Examiner agreed with this Examiner's interpretation, and pointed out apparently so does the reference which Applicants cited. One notes that the meanings of the reference set forth on page 6 of Applicants Remarks are essentially the same as those set forth by the Examiner on page 8- bridging 9 of his Final Office Action. The Examiner stands by the position that A II cannot be"a constant drying rate period"; if the solid curve is the rate of total moisture plotted against time, the slope is changing (downward) and therefore so is the rate, i.e. it cannot be "constant". Thus Applicants confusing and contradictory arguments are not persuasive, and respectfully submits that Applicants own reference supports, rather than refutes, the Examiner's interpretation of the terms and curves. The Examiner also points out new Fig. B is consistent with the Examiner's reasoning, yet did not appear to be explained in the Remarks relative to the Examiner's position, hence its meaning is unclear. However, the Examiner submits for the record evidence from the M-H Encycl. of Science and Technology, wherein figure 1 shows dark curve 1 which is the drying rate curve for a thin layer (coating) which depicts in curve form what the Examiner has consistently held: an increased (upward sloping curve) rate, followed by a long constant drying rate (flat section) and a falling rate as ~~depcit~~ depicted by the dashed right , downward sloping end of the curve.

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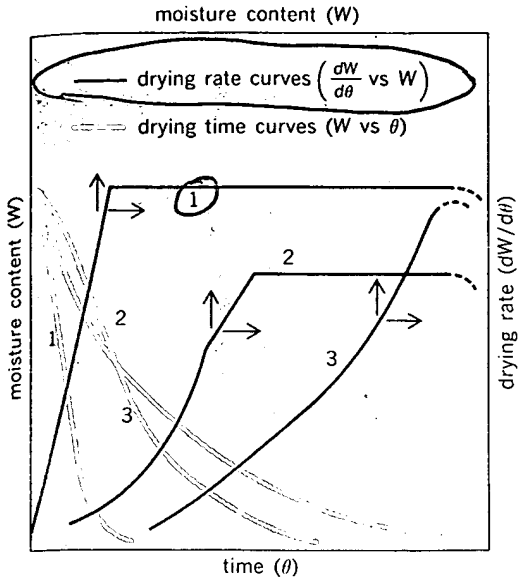

Fig. 1. Drying-time and drying-rate curves illustrating the general problem of drying: (1) Curves typical of a layer of thin material with most of the drying in the constant rate. (2) A more general case in which two stages in the falling-rate period occur. Typical of granular materials. (3) A case in which no constant rate occurs. Typical of homogeneous and colloidal materials such as soap, gelatin, and viscous solutions.

cause the evaporation rate to be less than that of pure water. Nevertheless, this lower rate can still be constant during the first stages of drying.

A fundamental theory of drying depends on a knowledge of the forces governing the flow of liquids inside solids. Attempts have been made to develop a general theory of drying on the basis that liquids move inside solids by a diffusional process. However, this is not true in all cases. In fact, only in a limited number of types of solids does true diffusion of liquids occur. In most cases, the internal flow mechanism results from a combination of forces which may include capillarity, internal pressure gradients caused by shrinkage, a vapor-liquid flow sequence caused by temperature gradients, diffusion, and osmosis. Because of the complexities of the internal flow mechanism, it has not been possible to evolve a generalized theory of drying applicable to all materials. Only in the drying of certain bulk objects such as wood, ceramics, and soap has a significant understanding of the internal mechanism been gained which permits control of product quality.

Most investigations of drying have been made from the so-called external viewpoint, wherein the effects of the external drying medium such as air velocity, humidity, temperature, and wet material shape and subdivision are studied with respect to their influence on the drying rate. The results of such investigations are usually presented as drying rate curves, and the natures of these curves are used to interpret the drying mechanism. **Figure 1** shows a series of typical drying-rate curves.

The constant-rate period of drying when heat is supplied by convection is susceptible to theoretical and analytical treatment because it is essentially independent of the solid material. When drying is accomplished by heat transfer from hot gases, which also remove the evolved vapors, the constant rate may be expressed in terms of heat-transfer rates or mass-transfer rates.

A constant rate of evaporation at the surface of the solid maintains the surface at a constant temperature, which, in the absence of other heat effects, is very nearly the wet-bulb temperature of the air. This temperature may range from 70 to 130°F (21 to 54°C) for convection drying, depending on the temperature and humidity of the air and on radiation. This so-called wet-bulb cooling effect is one reason why heat-sensitive solids can be dried in air at temperatures well above the decomposition temperature of the solid.

The magnitude of the constant rate can vary widely, depending on the degree of subdivision of the material, that is, the manner in which the material is exposed to the drying air. Thus, the rate of drying in spray dryers can be several hundred-thousand-fold greater than the rates in tray dryers.

A number of empirical expressions based on experimental studies have been developed for estimating the constant rate for different physical configurations of the wet material.

When materials are dried in contact with hot surfaces, termed indirect drying, the air humidity and air velocity may no longer be significant factors controlling the rate. The "goodness" of the contact between the wet material and the heated surfaces,

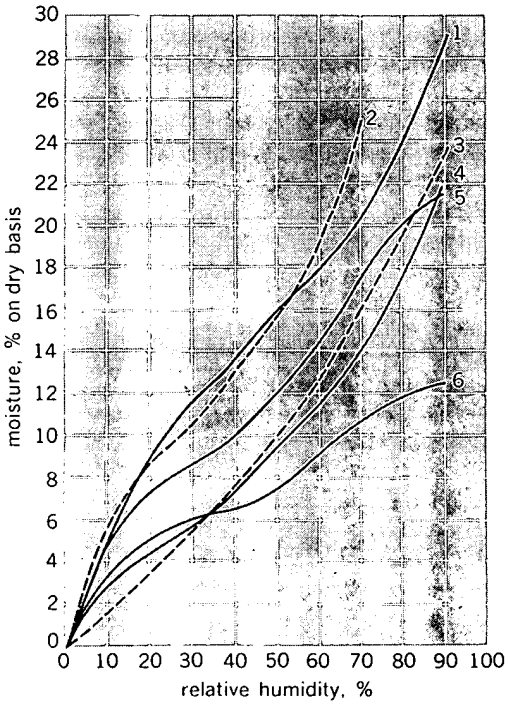

Fig. 2. Equilibrium moisture content of miscellaneous organic materials at 70°F (21°C): 1, leather; 2, tobacco; 3, soap; 4, wood; 5 catgut; 6, glue.